ED 051 274 **THE EFFECTIVENESS OF DEMONSTRATION AS A MEANS OF DISSEMINATION.**

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DOCUMENT RESUME

ED 051 274 TM 000 588

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TITLE The Effectiveness of Demonstration as a Means of Dissemination.
INSTITUTION Illinois Univ., Urbana. Center for Instructional Research and Curriculum Evaluation.
PUB DATE Feb 71
NOTE 17p.; Paper presented at the Annual Meeting of the American Educational Research Association, New York, New York, February 1971

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS Administrator Attitudes, Behavior Change, Curriculum Enrichment, *Demonstration Centers, Demonstration Programs, Educational Change, Educational Finance, *Educational Innovation, Evaluation Techniques, *Gifted, *Information Dissemination, Instructional Innovation, Program Effectiveness, *Program Evaluation, Questionnaires, Rating Scales, School Personnel, Teacher Attitudes, Teaching Techniques
IDENTIFIERS *Illinois Gifted Program Evaluation

ABSTRACT

The effectiveness of demonstration centers in education as a means of inducing school personnel to adopt new modes of behavior (methodology) and/or new materials (curriculum) is evaluated. Data was collected through the use of an observation schedule, two questionnaires, and a structured interview. Demonstration varies in effectiveness depending on the criterion of success. Results show: 1) A vast majority (80%) of visitors to a center say they would like to implement activities they have observed, 2) A limited number (30%) actually try something new in their class or school as a result of the visit, 3) 10% of teachers in the target schools attribute substantial help in the development of their programs to demonstration center personnel (and not to the visit itself), 4) 2% of the districts adopt demonstrated programs in total. The viewers are inclined instead to adopt parts rather than the entire demonstration activity. The implications of this evaluation report are extensive for those educators who intend to use the concept of demonstration as a means of disseminating innovations. (Author/GS)

ED051274

# THE EFFECTIVENESS OF DEMONSTRATION AS A MEANS OF DISSEMINATION

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TM 000 588

A paper for presentation to the
American Educational Research Association
New York, New York
February 5, 1971

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# THE EFFECTIVENESS OF DEMONSTRATION AS A MEANS OF DISSEMINATION

In the post Sputnik furor that swept the United States in the early 1960's, gifted education was brought into the forefront of national priorities. Illinois spent four years in developing a statewide comprehensive plan to handle this new priority. The result was that in 1963 the bill authorizing the Illinois Plan for Program Development for Gifted Children was passed unanimously in the Illinois Legislature.

At the center of the Illinois Plan were the demonstration centers, serving as the main instruments of change and the repository of major hopes and resources. The demonstration idea itself was not new; teaching methods and materials had long been demonstrated to pre-service and in-service teachers, and laboratory schools were usually justified in terms of their demonstration function. The idea that demonstration centers would be sponsored by the state was somewhat unique although previously suggested by Brickell. (1961). What was new was that the proposed demonstration centers in the Illinois Plan were to be created by the state in ordinary school systems. By 1969 there were 23 such centers operating with combined budgets over $1,000,000.

The primary consideration of the investigation was to evaluate the disseminative effectiveness of the demonstration centers. Since the centers were based on a model of operation similar to the Clark-Guba diffusion model, (Guba 1966) it was reasonable to apply the criteria suggested by that model for each appropriate stage of educational change. In the official literature of the centers the operational goals were formalized as follows:

(1) "Awareness" -- Making visitors aware of new programs for the gifted (corresponding to the "dissemination" stage of the Clark-Guba model.) The purpose of the "dissemination" stage is to inform about the innovation.

(2) "Acceptance" -- Convincing visitors to accept the demonstrated programs as good ones (corresponding to the "demonstration" stage of Clark-Guba). The Clark-Guba model's "demonstration" stage affords an opportunity for the target system to examine and assess the operating qualities of the invention, equivalent to what the Illinois Centers call "acceptance".

(3) "Implementation" -- Getting visitors to adopt the new programs (corresponding to the "trial adoption" stage of Clark-Guba). As one of their main goals, the Illinois demonstration centers also established "adoption" or getting the target population to try out the innovation. This formulation conforms to what Clark and Guba call the "trial" stage of adoption. In this phase, the appropriate criteria include these:

How "adaptable" is the innovation to the local scene?

How "feasible" is it in the local setting?

How does the innovation "act" in this setting?

Thus, the Illinois Demonstration Centers operate in the middle three stages of the Clark-Guba change model: dissemination, demonstration, and trial adoption.

Using criteria from the Clark-Guba model as a guide, the following instruments were developed:

(1) Observation Schedule

To help assess the dissemination stage, a 41-item instrument on which observers rated the degree of detail provided in the a) explanation of the program;

b) explanation of the class to be observed; c) observation of the demonstration class; d) explanation of the center's own evaluation; e) explanation of program feasibility was developed. Ratings were made on a four point scale from "Detailed" to "None."

Items were generated by considering what things occurred at a demonstration. Operational definitions were developed for each item. Four observers field-tested both the instrument and procedures for its use at eight different centers before applying it to the entire population. Reliability indicated by the coefficient of observer agreement for all observations was .75. Observers achieved 93% agreement within one scale point (House, et al, 1969).

(2) Visitor Questionnaire

To assess the demonstration stage, it was deemed desirable to have an instrument which would tap the visitors' perceptions at the end of the demonstration day. The intent of this instrument was to determine the perceived credibility and acceptance of the demonstration program immediately after the demonstration while the visitors were still at the center.

The first section consisted of twenty-four items which probed the visibility, procedures, and obtrusiveness of the demonstration; the practical feasibility of the demonstrated program; the similarity of the demonstration district to the visitor's district and attitude change during demonstration. The second section of the questionnaire used a semantic differential consisting of 30 bi-polar scales which had been factor-analyzed into the following factors: Motivation Qualities, Subject-Matter Value, Ease of Implementation, and Economic Feasibility. Visitors were asked to rate the demonstrated program on these scales.

The visitor questionnaire was field-tested on 60 visitors at eight centers at the same time as the Observation Schedule. It was administered at all

centers over a two month period; the final sample numbered 600 teachers and 91 administrators (Kerins, et al, 1969).

(3) Post Visit Questionnaire

The intent of this questionnaire was to determine what visitors had actually tried to use as a result of their visit, (the adoption stage) and their reasons for accepting or rejecting what they had seen at the demonstration centers (Kerins, et al, 1970). The most important item in the questionnaire asked respondents to relate a concrete, specific example of something they had done as a result of their visit to a particular center. This item was then scored as to acceptable specificity by a panel of judges. The questionnaire also had an item based on Rogers' (1964) reasons for adoption, asking why they had adopted a certain activity. Another item was based on Eichholz's (1963) reasons for rejection. This questionnaire was then sent to all those who had completed the Visitor Questionnaire plus two other selected samples.

The Post Visit Questionnaire (PVQ) was sent to 1569 teachers and 271 administrators: 907 or 57.4% of the teachers and 186 or 68.2% of the administrators responded by returning their completed questionnaires. All together then, 1093 out of 1840 (60%) school personnel returned a valid questionnaire.

The breakdown on the response percentage was predictable in its sequence:

A) 2 months after visit --- 70% returned

B) 4 months after visit --- 59% returned

C) 8 months after visit --- 59% returned

D) 12 months after visit --- 54% returned

The above response was elicited with just one mailing and one follow-up post card two weeks later. The decreasing percentage seems understandable with two exceptions: (1) the difference in mailing between the 4 and 8 month

sample was the summer 1969, but the return percentage was the same; (2) the percentage of return one year after a single visit was over 50%. This type of return indicates that follow-up evaluation of centers over a length of time is apparently feasible.

(4) Interview

Interviews with teachers were conducted in a stratified random sample of schools in the Illinois Program, the target schools for the demonstration centers. Some teachers had been to demonstration centers, some had not. As part of an hour-long structured interview, teachers of gifted students in these schools were asked who and what had influenced their current program. No specific reference was made to demonstration centers in the interview. The interview replies were then scored as to whether demonstration personnel or visits were mentioned. The intent of this measure was to assess the long-term and lasting impact on the diverse target groups of local districts that the demonstration centers were supposed to influence, since the influence could have occurred over a five-year time period.

## THE DEMONSTRATION PROCESS

### Pre-Demonstration

Each center mailed several hundred brochures to schools throughout the state explaining the type of programs it was demonstrating and at what grade levels. While the grade level was from 1st to 12th grade, the programs ranged from teaching strategies, to special curricula, to fine arts.

During the 1968-69 school year, over 3000 teachers, the majority of whom were female elementary teachers in self-contained classrooms, observed demonstrations. These teachers were well educated (32% had at least their Master's), recently educated (59% reached their highest level of education within the last

five years), and experienced (50% had at least 10 years of teaching experience). Over 500 administrators, generally male principals. also observed demonstrations at the centers.

Funds from the reimbursement phase of the Illinois Plan financed these teachers and administrators on visits to demonstration centers. At the time of the visit, a quarter of the teachers and half of the administrators were directly involved with ongoing gifted programs in their districts. The other visitors were either in the planning stages of a gifted program or personnel who visited because they were curious.

Teachers and administrators generally agreed on reasons for visits. Although curiosity was a major factor for both groups, 40% of the teachers and 32% of the administrators came to a particular center with the idea that they wanted to make a change in their classes or schools. Therefore, it is obvious that a significant number of the visitors are self-selected to the extent thay they have more than an open mind toward change; they are ready and eager for it. In fact, 34% of the visitors were already highly interested in using the activities before visiting the center and 8% had already decided to do so.

## The Demonstration

After the orientation the visitors could expect to see from one to four classes in perhaps two or three different schools. The evidence suggests that the demonstrations were well done and that the content of the classes was good. The visitors were able to hear and see the class proceedings clearly without disturbing the students. In most cases they observed a high degree of student involvement in class activities, and a great deal of student and teacher enthusiasm about their particular demonstration classes. The visitors received an opportunity to talk with the teachers and usually with the students who par-

ticipated in the demonstration classes.

After viewing classes visitors concluded that these demonstration classes were relevant to their needs and 80% of them also stated they would like to incorporate some aspect of a demonstrated activity into their own classes or schools. More specifically, the popular activities among visitors were independent study, some of the special curriculum materials, small group work, team teaching, learning/resource centers, the inquiry method, flexible scheduling, inductive teaching and individualized instruction. Most of these activities could be employed with average as well as gifted children.

It seems logical that the demonstration directors would attempt to impress the visitors with the feasibility of the activities these visitors had just witnessed, since psychological acceptance of the activities is a requirement before actual implementation -- the ultimate goal. However, in most centers problems of future installation of demonstration activities in their own schools were not discussed. For example, the practical problems of the cost, the necessary materials, equipment, or training, and how to obtain all three, were usually not mentioned. Neither did the centers explain their evaluation plans or procedures or results.

Although for over 84% of the visitors there would be only one visit to the center, they were subjected to a fairly standardized processing which did not deal with the particular and personal aspects of their home situations. Visitors were likely to be told quite a bit about the overall program and the classes they were to view but not very much about any evaluation of the program or how to implement it in their district. For their part visitors felt that they had been very well informed.

When asked about their general reaction toward the demonstration center 94% of the visitors replied with a positive response. In fact, about 33% of all visitors reported that their attitudes changed during the demonstration day, with

the overwhelming change (79%) being from neutral to positive. The visitors usually perceived the demonstrated programs as being different from those in their home districts, appropriate for gifted children, and relevant to their needs. They also saw the demonstrated activities as having high motivational value and academically valuable subject matter.

The vast majority of visitors believed that some of the demonstrated activities were realistic with regard to physical prerequisites in their school personnel, space, facilities, and funds -- even though they perceived the demonstration centers to be higher socio-economically. They saw their schools as being able to handle the innovations.

By the end of the day, in spite of some doubts, the majority of visitors said they were going to attempt to change their classroom behavior (74%) or their curriculum (58%). They were committed to the activities as demonstrated but even more committed to the ideal educational philosophies underlying the demonstrations. In short, they were convinced (many before they came); they liked what they saw and intended adopting many activities to their own situations.

Post Demonstration

There were two types of follow-up available for the visitors: passive and active. Passive follow-up is defined as sending materials to past visitors and making presentations to groups of school personnel. Active follow-up is defined as a person-to-person working relationship involving the visitor and a member of the demonstration staff.

Table 1 illustrates the range and type of follow-up these visitors received.

TABLE 1

Services Received by Visitors

| | | Teachers | Administrators |
|---|---|---|---|
| *PASSIVE FOLLOW-UP* | Received Materials | 21%* | 26% |
| | Received Presentation | 8% | 15% |
| | Received Training | 5% | 12% |
| | Received Help in Starting a Program | 5% | 11% |
| *ACTIVE FOLLOW-UP* | Received Assistance With Student Selection Procedures | 3% | 8% |
| | Received Help in Developing Lesson Plans | 4% | 3% |
| | Received Assistance With Curriculum Development | 4% | 4% |

*A visitor could respond to all items; therefore, the potential response for each category is 100%.

A large percentage of the visitors to the Illinois Demonstration Centers received no help. Visitors who did get help in most cases received passive follow-up, although visitors who asked for follow-up usually got it. For the most part demonstration directors passively waited for visitors to initiate requests for particular assistance.

There were individual centers that attempted a more thorough follow-up than others. However, the variation did not seem significant, thereby suggesting that part of the problem lay within the total structure and not just with personnel from a few centers.

In summary, the state policy-makers encouraged the use of follow-up to overcome the problem of demonstrating in what was often observed as an atypical situation. The follow-up was not as frequent nor as penetrating (speeches

and materials) as policies demanded. For example, in 17 out of the 20 centers, 10% or more of the visitors received materials while in only 5 of the 20 centers did 10% or more receive help in developing their own programs. Similarly the centers did not stress the practical matters of how visitors adopted activities. Neither did centers provide the "evidential assessment" the Clark-Guba model called for. For their part the visitors did not seem to miss these omissions. They felt that they were well informed and left with what could be described as a euphoric feeling.

## THE IMPACT OF DEMONSTRATION

### Implementation

After periods ranging from two months to one year after their visit, the great majority (79%) of visitors was still favorably impressed by the demonstrations and said they saw some activities they would <u>like</u> to implement at home. The activities most often mentioned were independent study, individualized instruction, and team teaching. Somewhat fewer (46%) said they had started incorporating changes.

The criterion item, however, asked respondents to relate a specific, critical incident of how their behavior had changed as a result of their visit. A panel of three judges independently scored the written comments according to a carefully defined protocol. Being able to give a specific example was considered the best indicator to the short-range impact of the demonstration center. About 29% of the 1100 teachers and administrators in our sample were able to supply a concrete example of behavior change.

TABLE 2

Attrition From Interest to Action Among Visitors

| | Teacher | Administrator | Total * |
|---|---|---|---|
| Would like to use activities | 78% | 82% | 79% |
| Have decided to accept and use activities | 59% | 53% | 58% |
| Have started incorporating changes | 46% | 46% | 46% |
| Can give an acceptably specific example of change | 30% | 25% | 29% |

*Since the teachers' responses outnumber the administrators' responses by more than five to one, the total % will be closer to the teacher % .han to the administrator %.

A one-way analysis of variance was done looking at the criterion item (written example) over specific lengths of time...2, 4, 8, and 12 months. The sampling techniques voided generalizations about administrators but for teachers there was a significant difference. ['F' (3.06 sig. at .01 level with N - 901)] Those visitors with a four month delay between their visit and the mailing of the questionnaire did much better than those with an 8 month delay. However, the closeness of the 2 and 12 month samples to the mean indicates that there is a stronger variable: the time of year in which information is requested. Those who received the questionnaires in the spring had a significantly higher degree of adoption than those who received them in the fall.

The overall adoption rate of 29% for all twenty centers was consistent with an earlier study of two centers which found a 19% rate (House, 1966) (The earlier study used a stricter scoring protocol that eliminated all responses not directly employing the subject matter demonstrated.)

Among the twenty centers investigated here the percent of visitors indicating trial adoption ranged from 14% to 55%. Two centers had adoption rates of 50% while three had less then 20%. The number of visitors per year ranged

from 54 to 434. Apparently the number of visitors received and the number affected were independent of each other, for example:

1) Some centers affected a comparatively high percent of visitors even though they had a large number of visitors;

2) Some centers were very effective -- but perhaps because of the nature of their demonstrations or their physical setting -- could not handle a large number of visitors;

3) Some centers affected a comparatively high number of visitors simply because of the large number of visiting school personnel they processed rather than their high percent of efficiency;

4) Some centers apparently had very little going for them -- affecting only a few of the small number of visitors to their centers.

A standard of 100% success is an entirely unrealistic expectation for change programs. In social institutions resistance to change is strong. The adoption of innovations in 25% of the contacts made is no mean accomplishment while a rate of 50% adoption would represent an extremely high degree of success. As a total group, the Illinois Centers affected 29% of their visitors -- a highly respectable figure. Of 3500 school personnel visiting, about 100 tried out at least one new thing. In getting people to try out things the centers must be judged a success. There are, however, some important qualifications. First, the population visiting the demonstration centers was strongly self-selected -- many wanted to change before they came. The 29% who did try something new are a percentage of people already committed to change, not of the total educator population, which is often considered to be rather recalcitrant. The results are a little like giving a test solely to one's better students.

The most important question though, is the depth and duration of the change. Simply trying out something new one time is not far-reaching change.

In structured interviews in 34 target reimbursement districts (a 10% random sample), teachers of the gifted were asked who and what had influenced their program. No specific reference was made to demonstration centers. Teachers in 10% of the districts attributed substantial influence in the development of their programs to help from demonstration center personnel though not to visits to demonstration centers. This figure represents a cumulative impact over several years in the target population (not just demonstration visitors although almost all the teachers had been to the centers).

In addition, when the quality of gifted programs in these districts was related to other variables, there was no relationship between quality of program and visits to demonstration centers or visits from demonstration personnel. There were small but significant relationships with visits from university consultants and from state staff members. These findings were consistent with Erlandson's (1969) survey of 202 reimbursement directors which found that demonstration directors were not influential in local reimbursement decision-making but that state consultants were.

Finally only about 2% of the target reimbursement districts had adopted a demonstrated program in toto -- the original goal of the centers. In fact, little evidence was found of earlier demonstration programs such as "new math", even in some districts that had been field test sites. At best, districts seldom adopted new programs from demonstration centers although some attempted to. What resulted was a patchwork of partial adoptions which neither extended to all grades, subjects, or schools in a district nor to all classes within a grade, subject area or school. Changes directly attributable to the demonstration centers tended to be not very far-reaching.

## Reasons for Acceptance and Rejection

In order to discover the reasons teachers and administrators accepted

certain innovative activities in their schools instead of others, a checklist was developed from Rogers' (1964) framework of characteristics of innovations. The five characteristics were relative advantage, compatibility, complexibility, divisibility, and communicability.

The one main characteristic which influenced visitors to accept an activity and adopt it in their own school situation is divisibility. By "divisibility" is meant that the activities can be used on a limited basis or that parts can be used without necessarily adopting the entire activity. Many individuals were willing to accept something new only if it appeared possible to integrate it into their present system.

It was assumed that there would be an attrition rate between wanting to implement an activity and actual implementation. The question, therefore, was asked whether or not visitors would like to use an activity but were unable to use at least one of the observed activities. Each one of the respondents indicated his reasons by checking off as many of the sixteen items he considered applicable. The items were based on Eichholz's (1963) framework for the identification of forms of rejection. Visitors believed that a lack of money and facilities, complex schedule changes, and a shortage of staff kept them from using the activities. These data support the contention that often

> "The uniqueness of a demonstration makes it suspect and not at all compelling to the observer. The demonstration presents something that can be done given a highly unusual set of conditions--it is rigged, so to speak. It neglects to demonstrate to the observer what he can do about the factors in his situation which are different from those in the demonstration setting. The demonstration assumes that rational factors are the only factors to be considered but the observer knows or should know that there are economic, political, social and other factors involved in bringing about the same change in his system or context. The factors, which are probably the major barriers to change, are not dealt with in the demonstration setting. Demonstrations present the "what" aspects of change and few or none of the "how" aspects. The observer is presented with a *fait accompli* and he gets none of the information regarding how it was brought off." (Horvat, 1967)

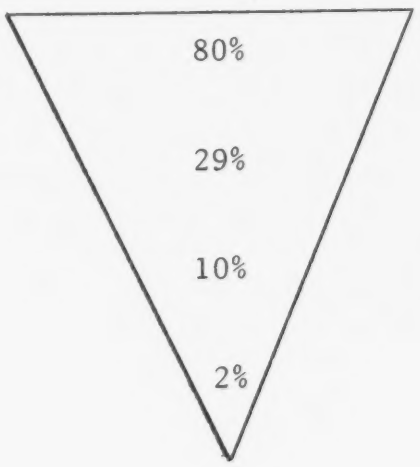
## Implications

This paper has illustrated that the use of demonstration as a means of dissemination has limited effectiveness. This is especially true when the emphasis seems to be entirely placed on the physical act of demonstration and not whether it is practical or applicable to its viewers or their school. As Table 3 shows, putting on a good or acceptable demonstration means little in the long run.

TABLE 3

Effectiveness of Demonstration as a Means of Dissemination

| | |
|---|---|
| Psychologically accepted demonstrated program | 80% |
| Adopted on a trial basis | 29% |
| Influenced toward a major change | 10% |
| Totally adopted demonstrated program | 2% |



There seems to be no question about the potential use of demonstration as an awareness device for illustrating concepts in education which most teachers and administrators only read about; but in practical terms of actual adoption, demonstration by itself (without comprehensive selection and follow-up procedures) has little long range impact. Therefore, if demonstration is to be used for purposes other than awareness, its limits should be understood.

REFERENCES


1. Eichholz, Gerhard C. "Why do Teachers Reject Change?" Theory into Practice, Vol II, No. 5, December, 1963, pp. 264-268.

2. Erlandson, David A. An Examination of Decision Rules Within Organization Units as Responses to Government Stimuli. Unpublished dissertation: College of Education, University of Illinois, 1969.

3. Guba, Egon. "The Change Continuum and Its Relation to the Illinois Plan for Program Development of Gifted Children." Paper presented at a conference on Educational Change, March 1966.

4. Horvat, John J. Content and Strategies of Communication in Current Educational Change Efforts. A presentation for the AASA - Educational Press Association discussion group on "Communication Strategies of Educational Change", February, 1967.

5. House, Ernest R., Kerins, Thomas, Lapan, Stephen, Steele, Joe M. The Visibility and Clarity of Demonstrations (Appendices) Northfield, Illinois: Cooperative Educational Research Laboratory Inc., June 1969.

6. Kerins, Thomas, House, Ernest R., Lapan, Stephen, Steele, Joe M. The Illinois Demonstration Centers -- The Visitors' View. Urbana, Illinois: Center for Instructional Research and Curriculum Evaluation, University of Illinois, October 1969.

7. Kerins, Thomas, House, Ernest R., Lapan, Stephen, Steele, Joe M. After the Visit: The Impact of Demonstration. Urbana, Illinois: Center for Instructional Research and Curriculum Evaluation, University of Illinois, May 1970.

8. Rogers, Everett M. Diffusion of Innovations. New York. The Free Press of Glencoe, 1964, pp. 81-86.